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### AMENDMENT NO. 1 OCTOBER 1979

**TO** 

IS:6469-1972 SPECIFICATION FOR HARPOON TROCAR (TILLEY'S PATTERN)

### Alteration

(Page 2, clause 6.2) - Substitute the following for the existing clause:

"6.2 Corrosion Resistance - The instrument shall satisfy the boiling and autoclaving test as specified in IS:7531-1975 'Method for boiling and autoclaving test for corrosion resistance of stainless steel surgical instruments'."

(CPDC 26)

Indian Standard

IS: 6469 - 1972

(Reaffirmed 2003)

## SPECIFICATION FOR HARPOON TROCAR (TILLEY'S PATTERN)

- 1. Scope Dimensional and other requirements of Tilley's harpoon trocar used by ENT surgeons for breaking down wall in antrum surgery.
- 2. Shape and Dimensions As shown in Fig. 1.

UDC 615-472-3:616-216-1-089-82-72

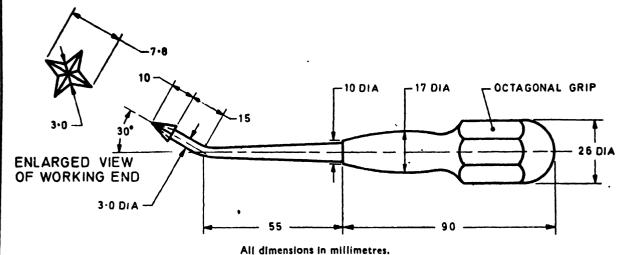


FIG. I HARPOON TROCAR (TILLEY'S PATTERN)

3. Materials — The trocar portion shall be of stainless steel conforming to Designation 30Cr13 of Schedule V of IS: 1570-1961 'Schedules for wrought steels for general engineering purposes' or of the following composition:

Carbon	0.35 to 0.45
Silicon	0 <sup>.</sup> 6 <i>Max</i>
Manganese	0.6 <i>Max</i>
Chromium	12 to 14
Nickel	0.6 <i>Max</i>
Sulphur	0·03 <i>Max</i>
Phosphorus	0·03 <i>Max</i>

Handle shall be of stainless steel conforming to Designation 30Cr13 or brass.

### 4. Workmanship and Finish

- 4.1 The trocar edges shall be well-cut, clean, sharp and free from nicks, feathers and pits. The working end shall be symmetrical. The instrument shall be well-balanced.
- 4.2 All edges, except the trocar edges, shall be even, rounded and nowhere sharp. All surfaces shall be smooth and free from burrs, pits, cracks and other surface flaws.
- 4.3 Handle shall be hollow and shall be fitted to the trocar shank by screwing and silver soldered. The silver soldering shall be sound and neat.
- 4.4 The trocar and the handle when made of stainless steel shall be passivated and polished bright. The brass handle shall be plated chromium over nickel and the plating shall conform to Service Grade No. 2 of IS: 4827-1968 'Specification for electroplated coatings of nickel and chromium on copper and copper alloys'.

Adopted 24 February 1972	july 1972, BIS	Gr 1

### IS: 6469 - 1972

5. Heat Treatment — The trocar portion shall be hardened and tempered to a hardness of 430 to 490 HV.

#### 6. Tests

- 6.1 Performance Test Take a piece of cardboard 1.5 mm thick. Hold the cardboard piece in such a way that it is supported by thumb and first two fingers. The fingers shall support the cardboard piece to enable the trocar to punch through the cardboard. Keeping the trocar point against the cardboard, push the trocar by hand to make a hole in the cardboard. The hole shall be cleanly made with a moderate push of the hand. The trocar tip and edges shall not get damaged during the test.
- 6.2 Corrosion Resistance Test for Stainless Steel Components Scrub the sample with soap and warm water, rinse in hot water and then dip in 95 percent ethyl alcohol. Dry the sample. Immerse in copper sulphate solution at room temperature for 6 minutes and wash off with fresh water or wet cotton wool. Make up the solution as follows:

Copper sulphate (CuSO<sub>4</sub>.5H<sub>2</sub>O)

Sulphuric acid (H<sub>2</sub>SO<sub>4</sub>) (sp gr 1.84)

Distilled water(H<sub>2</sub>O) [see IS:1070-1960 Specification for water, distilled quality (revised)]

No red stains or spots on the sample shall be allowed, but dulling of the polished surface may be permitted.

- 7. Marking Mark with the following:
  - a) Manufacturer's name, initials or recognized trade-mark; and
  - b) Words 'Stainless Steel' on trocar shank.
- 7.1 ISI Certification Marking Details available from the Indian Standards Institution, New Delhi 1.
- 8. Packing As agreed to between the purchaser and the supplier. The trocar edges shall be suitably protected.